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10/025,796	12/26/2001	Eung-Seok Roh	P56592	8055

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EXAMINER

LEE, PHILIP C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,796

Applicant(s)

ROH, EUNG-SEOK

Examiner

Philip C Lee

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/26/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-14 are presented for examination.
2. Claim 4, line 4 is objected to because of the informalities "and".

Claim Rejections – 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, U.S. Patent Application Publication 2001/0030977 (hereinafter May) in view of Cheline et al, U.S. Patent Application Publication 2003/0055990 (hereinafter Cheline).
5. As per claim 6, May taught the invention substantially as claimed comprising:
a client personal computer (PC) (page 2, paragraph 16);
an network access server (NAS) (page 2, paragraph 16); and

an asymmetric digital subscriber line (ADSL) modem (page 2, paragraph 31) including:

an ATM layer, a PPP layer, an Internet protocol (IP) layer, a user datagram protocol (UDP) layer and a DHCP layer (fig. 5), said ADSL modem completing a single network connection between said client PC and said NAS by forming a PPP connection to said NAS (page 1, paragraphs 3 and 5; page 2, paragraphs 16 and 31; page 3, paragraph 44) when said client PC is booted (It is inherent that the client PC must be started), by receiving at said DHCP layer, through an Internet Protocol control protocol (IPCP) of said PPP layer (page 4, paragraphs 52 and 54), IP configuration information, including a global IP address, and by transferring the IP configuration information received to the client PC to enable said ADSL modem (page 4, paragraph 54) to form a bridge between said client PC and said NAS to allow IP packets to be transferred between said client PC and said NAS (page 2, paragraphs 16 and 32).

6. May did not specifically teach transmitting global IP address to a DHCP server of the ADSL modem. Cheline taught transmitting global IP address to a DHCP server of the DSL modem (page 3, paragraph 30; page 5, paragraphs 46 and 50).

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Cheline because Cheline's teaching of transmitting global IP address to a DHCP server of the DSL modem would increase the efficiency of May's system by allowing network administrators to manage centrally and

automate the assignment of Internet Protocol addresses to the client computers (page 5, paragraph 61).

8. As per claim 9, May and Cheline taught the invention substantially as claimed in claim 6 above. May further taught wherein a header generation/extraction (HGE) portion of said PPP layer (inherently comprised in a PPP layer) of said ADSL modem add a PPP header to the IP packet when the IP packet is transferred from the client PC to the NAS (page 2, paragraph 16; page 4, paragraph 56; page 5, paragraph 59); and

a header generation/extraction (HGE) portion of said PPP layer (inherently comprised in a PPP layer) of said ADSL modem deletes the PPP header from the IP packet when the IP packet is transferred from the NAS to the client PC (page 2, paragraph 16; page 4, paragraph 56; page 5, paragraph 59).

9. As per claim 12, May and Cheline taught the invention substantially as claimed in claim 6 above. May further taught wherein said NAS withdraws the global IP address assigned to the client PC when a lease time expires (page 2, paragraph 14).

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over May and Cheline in view of Pagani et al, U.S. Patent Publication Application 2002/0095484 (hereinafter Pagani).

11. As per claim 8, May and Cheline taught the invention substantially as claimed in claim 6 above. May and Cheline did not teach producing a minimum subnet mask consisting of global

IP address and a gateway address. Pagani taught the step of producing a minimum subnet mask consisting of the global IP address and a gateway address.

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline and Pagani because Pagani's teaching of producing a minimum subnet mask consisting of the global IP address and a gateway address would improve the routing process of May's and Cheline's systems by allowing the irrelevant part of the address to be masked during the routing process.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over May and Cheline in view of Merrill et al, U.S. Patent Publication Application 2003/0198215 (hereinafter Merrill).

14. As per claim 10, May and Cheline taught the invention substantially as claimed in claim 6 above. May and Cheline did not teach sending a DHCPOFFER to the client PC from the ADSL modem. Merrill taught comprising the steps of:

sending a DHCPDISCOVER message to the modem from the client PC (page 11, paragraph 133);

sending a DHCPOFFER and to the client PC from the modem in response to the DHCPDISCOVER message, said DHCPOFFER message including said IP configuration information (page 11, paragraph 133).

15. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline and Merrill because Merrill's teaching of sending a DHCPOFFER to the client PC from the modem would increase the efficiency of May's and Cheline's systems by allowing IP addresses to be dynamically assigned using the Dynamic Host Configuration Protocol (page 9, paragraph 111).

16. Claims 11 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over May and Cheline in view of Okano et al, U.S. Patent Publication Application 2002/0062485 (hereinafter Okano).

17. As per claims 11 and 13, May and Cheline taught the invention substantially as claimed in claims 6 and 12 above. Although May taught sending a DHCPREQUEST message to the ADSL modem to obtain a new lease time to prevent the NAS from withdrawing the global IP address assigned to the client PC after a lease renewal time expires (page 4, paragraph 54), however, May and Cheline did not teach a DHCPACK message. Okano taught sending a DHCPACK message from the modem to the client PC, said DHCPACK message including said IP configuration information (page 7, paragraphs 138 and 139; fig. 9).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline and Okano because Okano's teaching of sending a DHCPACK message including IP configuration information would improve the management of allocation of May's and Cheline's systems by ensuring that a duplicate IP

address is not reallocated to another client PC when the lease time expired (page 3, paragraph 45).

19. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over May and Cheline in view of Mwikalo et al, U.S. Patent 6,480,508 (hereinafter Mwikalo).

20. As per claim 14, May and Cheline taught the invention substantially as claimed in claim 6 above. May and Cheline did not teach configuration information includes a primary-DNS address and a secondary-DNS address. Mwikalo taught wherein said IP configuration information includes a domain name system (DNS) server address consisting of a primary-DNS-address and a secondary-DNS-address (col. 5, line 63-col. 6, line 4).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline and Mwikalo because Mwikalo's teaching of configuration information includes a domain name system (DNS) server address consisting of a primary-DNS-address and a secondary-DNS-address would increase the flexibility of May's and Cheline's systems by allowing a client to send DNS query to either the primary DNS or the secondary DNS address (col. 6, lines 1-2).

22. Claims 1, 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over May in view of Cheline and Blair et al, U.S. Patent 6,778,528 (hereinafter Blair).

23. As per claims 1 and 7, May taught the invention substantially as claimed comprising the steps of:

forming a single network between a client personal computer (PC) and a network access server (NAS) by allowing the ADSL modem to make a PPP connection to the NAS (page 1, paragraphs 3 and 5; page 2, paragraphs 16 and 31; page 3, paragraph 44) when the client PC is booted (It is inherent that the client PC must be started), transmitting Internet protocol (IP) configuration information, including a global IP address, to a DHCP of the ADSL modem through a PPP Internet protocol control protocol (IPCP) (page 4, paragraphs 52 and 54), and by allowing the ADSL to transfer the IP configuration information received to the client PC (page 4, paragraph 54); and
forming a bridge by the ADSL modem between the client PC and the NAS and transferring IP packets between the client PC and the NAS (page 2, paragraphs 16 and 32).

24. May did not specifically teach transmitting global IP address to a DHCP server of the ADSL modem. Cheline taught transmitting global IP address to a DHCP server of the DSL modem (page 3, paragraph 30; page 5, paragraphs 46 and 50).

25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Cheline because Cheline's teaching of transmitting global IP address to a DHCP server of the DSL modem would increase the efficiency of May's system by allowing network administrators to manage centrally and

automate the assignment of Internet Protocol addresses to the client computers (page 5, paragraph 61).

26. May and Cheline did not specifically detailing the NAS withdrawing the IP address. Blair taught allowing the NAS to withdraw the global IP address assigned to the client PC when one of the client PC and the ADSL modem is turned off (e.g. off-line) (col. 1, lines 63-65; col. 7, lines 2-4).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline and Blair because Blair's teaching of withdrawing the IP address would increase the efficiency of May's and Cheline's systems by allowing the NAS to limit the number of IP addresses used to the number of users actively connected to the Internet (col. 1, lines 66-col. 2, lines 7).

28. As per claim 3, May, Cheline and Blair taught the invention substantially as claimed in claim 1 above. May further taught comprising the steps of:

allowing the NAS to add a PPP header to the IP packet when the IP packet is transferred from the client PC to the NAS (page 2, paragraph 16; page 4, paragraph 56; page 5, paragraph 59); and

allowing the ADSL modem to delete the PPP header from the IP packet when the IP packet is transferred from the NAS to the client PC (page 2, paragraph 16; page 4, paragraph 56; page 5, paragraph 59).

29. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over May, Cheline and Blair in view of Pagani.

30. As per claim 2, May, Cheline and Blair taught the invention substantially as claimed in claim 1 above. May, Cheline and Blair did not teach producing a minimum subnet mask consisting of global IP address and a gateway address. Pagani taught the step of producing a minimum subnet mask consisting of the global IP address and a gateway address.

31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline, Blair and Pagani because Pagani's teaching of producing a minimum subnet mask consisting of the global IP address and a gateway address would improve the routing process of May's, Cheline's and Blair's systems by allowing the irrelevant part of the address to be masked during the routing process.

32. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over May, Cheline and Blair in view of Merrill.

33. As per claim 4, May, Cheline and Blair taught the invention substantially as claimed in claim 1 above. May, Cheline and Blair did not teach sending a DHCPOFFER to the client PC from the ADSL modem. Merrill taught comprising the steps of:

sending a DHCPDISCOVER message to the modem from the client PC (page 11, paragraph 133);

sending a DHCPOFFER and to the client PC from the modem in response to the DHCPDISCOVER message, said DHCPOFFER message including said IP configuration information (page 11, paragraph 133).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline, Blair and Merrill because Merrill's teaching of sending a DHCPOFFER to the client PC from the modem would increase the efficiency of May's, Cheline's and Blair's systems by allowing IP addresses to be dynamically assigned using the Dynamic Host Configuration Protocol (page 9, paragraph 111).

35. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over May, Cheline and Blair in view of Okano.

36. As per claim 5, May, Cheline and Blair taught the invention substantially as claimed in claim 1 above. Although May taught sending a DHCPREQUEST message to the ADSL modem to obtain a new lease time to prevent the NAS from withdrawing the global IP address assigned to the client PC after a lease renewal time expires (page 4, paragraph 54), however, May, Cheline and Blair did not teach a DHCPACK message. Okano taught sending a DHCPACK message from the modem to the client PC, said DHCPACK message including said IP configuration information (page 7, paragraphs 138 and 139; fig. 9).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Cheline, Blair and Okano because Okano's teaching of sending a DHCPACK message would improve the management of allocation of May's, Cheline's and Blair's systems by ensuring that a duplicate IP address is not reallocated to another client PC when the lease time expired (page 3, paragraph 45).

CONCLUSION

38. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)350-6121.

P.L.

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